



(11) EP 1 544 740 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
17.12.2008 Bulletin 2008/51

(51) Int Cl.:
G06F 11/20 (2006.01) H01L 21/66 (2006.01)

(43) Date of publication A2:
22.06.2005 Bulletin 2005/25

(21) Application number: 04020775.5

(22) Date of filing: 01.09.2004

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PL PT RO SE SI SK TR**
Designated Extension States:
AL HR LT LV MK

(30) Priority: 18.12.2003 US 531023 P
16.07.2004 US 892707

(71) Applicant: **Marvell World Trade Ltd.**
St. Michael (BB)

(72) Inventors:
• **Sutardja, Sehat**
Los Altos Hills
California 94022 (US)

- **Sutardja, Pantas**
San Jose
California 95129 (US)
- **Lo, William**
Cupertino
California 95014 (US)

(74) Representative: **Grünecker, Kinkeldey,
Stockmair & Schwanhäusser**
Anwaltssozietät
Leopoldstrasse 4
80802 München (DE)

(54) Self-reparable semiconductor

(57) A self-reparable semiconductor includes multiple functional units that perform the same function and that include sub-functional units. The semiconductor includes one or more full or partial spare functional units that are integrated into the semiconductor. If a defect in a sub-functional unit is detected, then that sub-functional

unit is switched out and replaced with a sub-functional unit in the full or partial spare functional unit. The reconfiguration is realized with switching devices that are associated with the sub-functional units. Defective functional or sub-functional units can be detected after assembly, during power up, periodically during operation, and/or manually.

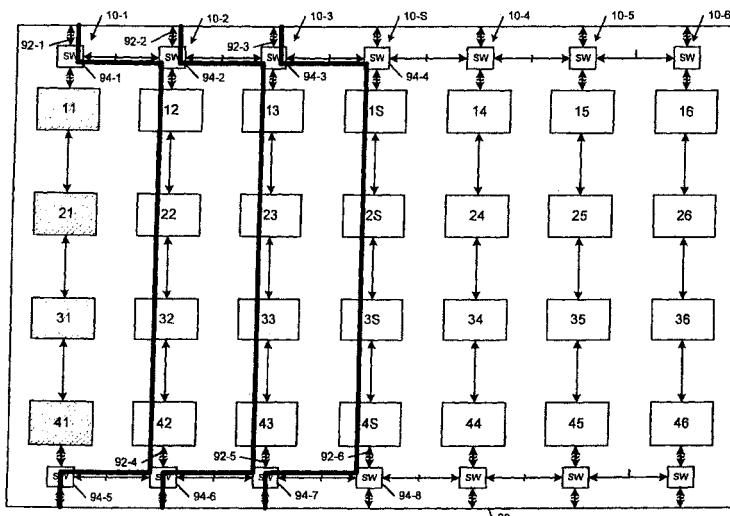


FIG. 4



EUROPEAN SEARCH REPORT

 Application Number
 EP 04 02 0775

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim			
X	WO 99/32975 A (PACT INF TECH GMBH [DE]; VORBACH MARTIN [DE]; MUEENCH ROBERT [DE]) 1 July 1999 (1999-07-01) * abstract * * page 7 - page 9 * * page 17 - page 18 * * figures 6,7a,7b * -----	1-20	INV. G06F11/20 H01L21/66		
X	US 6 091 258 A (MCCLINTOCK CAMERON [US] ET AL) 18 July 2000 (2000-07-18) * abstract * * figures 1,6,8 * * column 2, lines 13-32 * * column 5, line 60 - column 6, line 57 * * column 11, lines 38-64 * -----	1-20			
A	US 5 655 069 A (OGAWARA HIDEKI [JP] ET AL) 5 August 1997 (1997-08-05) * abstract * * figures 14,15 * * column 18, line 63 - column 20, line 33 * * column 22, lines 9-18 * -----	1-20			
			TECHNICAL FIELDS SEARCHED (IPC)		
			H01L G06F G11C		
The present search report has been drawn up for all claims					
2	Place of search	Date of completion of the search	Examiner		
EPO FORM 1503 03.82 (P04C01)	Munich	6 November 2008	Weber, Vincent		
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			
X	particularly relevant if taken alone				
Y	particularly relevant if combined with another document of the same category				
A	technological background				
O	non-written disclosure				
P	intermediate document				

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 04 02 0775

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-11-2008

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 9932975	A	01-07-1999		AT 274745 T AT 219263 T AU 2409599 A CA 2316314 A1 DE 19861088 A1 DE 19881975 D2 EP 1040420 A1 JP 2001527218 T US 6697979 B1		15-09-2004 15-06-2002 12-07-1999 01-07-1999 10-02-2000 15-02-2001 04-10-2000 25-12-2001 24-02-2004
US 6091258	A	18-07-2000		NONE		
US 5655069	A	05-08-1997		NONE		